



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,924	02/28/2002	Yoon Kean Wong	035451-0178(3724.Palm)	1157

26371 7590 03/26/2004

FOLEY & LARDNER
777 EAST WISCONSIN AVENUE
SUITE 3800
MILWAUKEE, WI 53202-5308

EXAMINER

LEFLORE, LAUREL E

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,924

Applicant(s)

WONG ET AL.

Examiner

Laurel E LeFlore

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: element 400 of figure 4. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "alternative communication system to optionally provide wired communication between the display sytem and the handheld computing device" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: In paragraph [0015], "FIGURE 1" should be "FIGURE 1A".
Appropriate correction is required.
4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o).

Correction of the following is required: Claim 13 discloses that "the display system includes an alternative communication system to optionally provide wired communication between the display system and the handheld computing device". Claims 17 and 22 disclose power sources of differing weights.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3, 12 and 19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Claim 3 recites the limitation "the wireless connection" in line 2. There is insufficient antecedent basis for this limitation in the claim.
8. In regard to claim 12, paragraph [0027] of the specification discloses, "According to an exemplary embodiment, processing unit wireless transceiver 128 can be a device using the Infrared Direct Access (IrDA) protocol, the Bluetooth short range radio network protocol, the IEEE 802.11 protocol, the HomeRF single wireless access protocol, the IEEE 802.11 b wireless fidelity protocol, or any other protocol for sending information wirelessly from processing unit 120 to visual display system 140." These are understood to be common protocols for wireless communication. The specification does not disclose "a custom wireless communication protocol", which is best understood to be a wireless communication protocol that is unique to the system.

9. Claim 19 recites the limitation "the transceiver" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim, as more than one transceiver has been disclosed in claim 14.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Nahi et al. 6,084,584.

In regard to claim 20, Nahi discloses a computing system comprising a processing unit, the processing unit including a first processor, a first transceiver coupled to the first processor, a first memory coupled to the first processor, and a first power source coupled to the first processor. See figure 1 and column 6, lines 23-26, disclosing a "host computer system 14...utilizing a modest to high performance central processing unit (CPU)". Further see column 6, lines 56-59, disclosing, "The host computer system 14 preferably includes...and interconnect line 16 to an external transceiver 18." Further see column 3, lines 61-63, disclosing, "The computer system also includes a wireless data transceiver coupled to the processor". See column 1, lines 32-55, disclosing various operating systems and application programs for host computer system 14. Thus, a memory and a power source are inherent.

Nahi further discloses a first display unit, the first display unit including a first display area. See column 7, lines 61-63, disclosing, "A display table 20 is preferably constructed with...a display panel 32". The first display unit further includes a second processor, a second transceiver coupled to the second processor and communicating with the first transceiver, a second memory coupled to the second processor, and a second power source coupled to the second processor. Note column 9, lines 51-52, discloses, "A block diagram of the internal electronic control system 60 for a display tablet 20 is shown in FIG. 3." See figure 3, depicting main processor bus 62, short range transceiver 88, main memory 66 and NVRam/Rom memory 68 and power controller 70. Note that short range transceiver 88, main memort 64 and NVRam/Rom Memory 68, and power controller 70 are all coupled to main processor bus 62.

Further see figure 1 and column 3, line 65 to column 4, line 3, disclosing, "The portable display tablet comprises...a low power wireless data transceiver providing short range data communication of the predetermined graphics and input data between the base computer system and portable display tablet". Thus, the transceiver of the display unit (second transceiver) communicates with the transceiver of the host computer (first transceiver).

Nahi further discloses a second display unit, the second display unit including a second display area, a third processor, a third transceiver coupled to the third processor and configured for communications with the first transceiver, and a third power source coupled to the third processor. See figure 1, depicting

display units 20a, 20b and 20c and the previous paragraph, disclosing the components of display unit 20.

Nahi further discloses that the first display unit and the second display unit may be interchangeably used. See column 4, lines 17-21, disclosing, "multiple portable display tablets can be utilized in conjunction with a single base computer system to separately and collaboratively provide access to applications executing on the base computer system."

12. In regard to claim 23, Nahi discloses that the first display unit is a ruggedized display unit. See column 7, lines 61-63, disclosing, "A display tablet 20 is preferably constructed with a plastic case 30 housing display panel 32". Further see column 8, lines 3-5, disclosing, "the display panel 32 is...reasonably sturdy when and as mounted within the case 30". Thus, display tablet 20 is a ruggedized display unit, as best understood, due to plastic case 30.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 1-8, 12, 14, 16-19, 21 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nahi et al. 6,084,584 in view of Lebby et al. 6,115,618.

In regard to claims 1, 14 and 21, Nahi discloses a display system which comprises a visual display having a communications transceiver and a

processing unit having a communications transceiver and sending display data to the transceiver of the visual display, wherein the visual display is physically separable from the processing unit while displaying information according to communications from the processing unit between the visual display transceiver and the processing unit transceiver. See figure 1 and column 3, line 61 to column 4, line 3, disclosing, "The computer system also includes a wireless data transceiver coupled to the processor that is capable of communicating the predetermined graphics and input data between the computer and portable display tablet. The portable display tablet comprises a graphics display panel for displaying predetermined graphical data, a low power wireless data transceiver providing short range data communication of the predetermined graphics and input data between the base computer system and portable display tablet".

Further in regard to claim 1 and in regard to claim 16, Nahi further discloses a first power source for the processing unit and a second power source for the visual display. Note column 9, lines 51-52, discloses, "A block diagram of the internal electronic control system 60 for a display tablet 20 is shown in FIG. 3." Further see figure 3 and column 9, lines 28-31, disclosing, "a rear access panel 56 is provided to allow a thin set of rechargeable batteries to be mounted within the display tablet case 30...the use of small high energy density rechargeable batteries is preferred". Thus, the visual display has its own power source. The processing unit is a base computer system (see previous paragraph and element 14 of figure 1). It is inherent that a computer has a power source.

Further in regard to claim 14, Nahi discloses an information storage system. See element 66 of figure 3, depicting a main memory. It is understood that a main memory stores information.

Nahi does not disclose that the display system is detachable and for a handheld computing device. Although the display tablet is handheld, the processing unit is a host computer, and is thus not handheld. See column 21, lines 21-22, disclosing, "while the host computer system...has been described as stationery, the host computer system can, indeed, be mobile".

Lebby discloses a display system in which a processing unit communicates with a detachable visual display wirelessly. Lebby further discloses that the display system is for a portable electronic device. Lebby teaches in column 1, line 63 to column 2, line 7, "It is a further purpose of the present invention to provide for a new and a portable electronic device with a removable display for use in small handheld devices, which enables a virtual image display and thus data contained within the product to be accessed and thus viewable by the user. It is a further purpose of the present invention to provide...remote viewing of the display from the portable electronic device utilizing a wireless connection with the portable electronic device."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi by having the display system be detachable from a handheld computing device, as in the invention of Lebby. One would have been motivated to make such a change based on the teaching

of Lebby to provide for a new and a portable electronic device with a removable display for use in small handheld devices, thus allowing remote viewing of the display from the portable electronic device utilizing a wireless connection with the portable electronic device.

15. In regard to claims 2 and 18, Nahi further discloses that the visual display includes random access memory (RAM) and a processing unit (CPU). Note in the rejection of claim 1 that figure 3 is a block diagram of the internal electronic control system 60 for a display tablet 20. See figure 3, element 68, depicting RAM and element 62, depicting a main processor bus. Further see column 9, lines 63-65, disclosing, "The main memory 66 is preferably constructed utilizing...RAM memory." Note main memory 66 in figure 3.
16. In regard to claim 3, Nahi discloses that the visual display CPU receives information over the wireless connection from the handheld computing device and stores the information in the visual display RAM. See rejections of claims 1 and 2. Further see figure 3 and column 10, lines 19-23, disclosing, "The non-volatile RAM/ROM memory 68 preferably stores at least a portion of the control program sufficient to enable the microcontroller 64 to download the remaining portions or full new image of a control program from the host computer 14."
17. In regard to claim 4, Nahi discloses that the information communicated from the processing unit to the visual display includes information necessary to display the current display image and information related to the current display image. See rejection of claim 3, disclosing that the information is a control program. Further

see column 10, lines 5-7, disclosing "a control program implementing primarily the display function of the tablet 20". It is understood that the display function includes displaying the current image. Also, information necessary to display the current image is information related to the current display image.

18. In regard to claim 5, Nahi discloses that the information communicated from the processing unit to the visual display is web pages that have links in the current display. See rejections of claims 1-4. See column 12, line 59 to column 13, line 8, disclosing the transfer of data from the host computer 14 to a portable display tablet 20. See line 59 of column 12, disclosing, "a Web browser application is a preferred example". Data from a web browser inherently includes web pages with links. Further see the description of the related art, which discloses that the present invention is designed for web and internet applications.
19. In regard to claims 6 and 7, see rejection of claim 5. Data in a web browser application inherently includes contents of drop down menus and images associated with thumbnail images.
20. In regard to claim 8, Nahi discloses that the visual display includes a display screen having input capabilities. See element 78 of figure 3, depicting a touch screen. (Note in the rejection of claim 1 that figure 3 is a block diagram of the internal electronic control system 60 for a display tablet 20.) Further see column 10, line 66 to column 11, line 1, disclosing "a touch screen interface 78 may be provided to support a touch screen function in connection with the display panel 32."

21. In regard to claim 12, Nahi discloses that the communications transceivers send and receive information using a custom wireless communication protocol. See column 5, lines 8-11, disclosing, "the tablet qualifies as a wireless communications product that does not require an operating license or the utilization of any non-local communications infrastructure". This is a custom wireless communication protocol, as best understood.

22. In regard to claim 17, Nahi discloses an invention similar to that which is disclosed in claim 17. See rejection of claim 16 for similarities. Nahi does not disclose that the second power source is lighter in weight than the first power source. However, there is no disclosed criticality of having the display power source be lighter than the power source associated with powering the processor, and it would be a matter of choice as to whether the display or processor has a power source that is lighter in weight.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the power source associated with the display unit be lighter in weight than the power source associated with the processor, as the component held by the user when viewing information would then be lighter.

23. In regard to claim 19, Nahi discloses an invention similar to that which is disclosed in claim 19. See rejections of claims 3, 4, 14 and 18 for similarities. While Nahi discloses that the transceiver transmits information related to current display screen information to the display system to store in the display system

RAM, Nahi does not disclose that this occurs while the current display screen information is being viewed. However, in line 35 of column 9, Nahi discloses a "refresh frequency" of the display. Further, viewing information on a display while transmitting information to a display is conventional and inherently implied when disclosing a refresh frequency. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi by having the transceiver transmit information related to current display screen information to the display system to store in the display system RAM while the current display screen information is being viewed.

24. In regard to claim 26, Nahi discloses a method of displaying data from a computing device on a visual display unit, the method comprising wirelessly communicating primary images to the visual display unit and storing the primary images while loading secondary images into a visual display unit memory. See figure 3 and column 10, lines 19-23, disclosing, "The non-volatile RAM/ROM memory 68 preferably stores at least a portion of the control program [primary images] sufficient to enable the microcontroller 64 to download the remaining portions [secondary images] or full new image of a control program from the host computer 14." Further see column 10, lines 5-7, disclosing "a control program implementing primarily the display function of the tablet 20". Thus, the control program is understood to contain images. It is further understood that a user of the computing device is allowed to access secondary images, as the remaining

portions [secondary images] complete a control program for "implementing the display function".

Nahi does not disclose the primary images are displayed while the secondary images are loaded. However, in line 35 of column 9, Nahi discloses a "refresh frequency" of the display. Thus, it is inherently implied that information is sent to the display while the display is displaying information. Further, viewing information on a display while transmitting information to a display is conventional. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention that the invention of Nahi is displaying primary images while secondary images are loaded.

Further in regard to claim 26, Nahi does not disclose that the computing device is handheld and the display is detachable. See rejections of claims 1 and 14 regarding having the computing device be handheld and detachable.

25. In regard to claim 27, Nahi discloses in the description of the related art that his invention is designed for web and internet applications. [See rejection of claims 3-5]. Further see column 12, line 59 to column 13, line 8, disclosing the transfer of data from the host computer 14 to a portable display tablet 20. See line 59 of column 12, disclosing, "a Web browser application is a preferred example". It is inherent that web applications contain primary images with links to secondary images.

26. In regard to claim 28, official notice is taken of links that are hyperlinks. Further, see rejection of claim 27. Hyperlinks are also inherent in web applications.

27. Claims 9-11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nahi et al. 6,084,584 in view of Lebby et al. 6,115,618 as applied to claim 1 above, and further in view of Branson 2003/0071832.

In regard to claims 9, 10 and 15, Nahi in view of Lebby discloses an invention similar to that which is disclosed in claims 9, 10 and 15. See rejection of claim 1 for similarities. Nahi in view of Lebby does not disclose that the visual display includes display screen that is flexible or expandable.

Branson discloses an adjustable display device that is flexible and foldable, thus expandable. Branson teaches in paragraph [0004] that "displays which are flexible in nature and thus able to be folded have been developed." Further, in paragraph [0005], Branson teaches, "A foldable display device is configured to fold in a similar manner as a wallet. In this manner, when the device is being carried around by a user, it may easily fit into the user's shirt or jacket pocket. When in use, the user may unfold the display device such that the display screen size of the device is many times larger than the folded size."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi in view of Lebby by having the display be flexible and expandable, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such foldable, flexible displays have been developed, offering a small size for portability and a large display screen size for use.

28. In regard to claim 11, Nahi in view of Lebby discloses an invention similar to that which is disclosed in claim 11. See rejection of claim 1 for similarities. Nahi in view of Lebby does not disclose that the display system includes display drivers capable of updating screen resolution and screen display size based upon the current expansion of the display system.

Branson discloses an invention in which display drivers are capable of updating screen resolution and screen display size based upon the current expansion of the display system. See paragraph [0009], disclosing, "The detection mechanism is configured to detect a change in size of the display device by displacement of at least one of the plurality of display segments and to generate a corresponding detection signal. The adjustable display device further includes a controller operatively coupled to the detection mechanism and configured to (1) receive the detection signal; (2) adjust displayed data of the display device in response to the detection signal; and (3) display the adjusted displayed data on one or more of the display segments." This controller is understood to be a display driver. Further see paragraph [0008] disclosing that the size and/or resolution are adjusted.

Branson further teaches in paragraph [0007], "Some foldable display devices are not operational in the folded state... Other foldable display devices significantly cut off the display content when in the folded state. Still other foldable display devices may show an undesirable line which extends across the seam of the fold." He further teaches in paragraph [0008], "it would be desirable

to have a foldable display device which is capable of dynamically adjusting the size and/or resolution of the displayed information in response to modifications to the display area resulting from folding and/or unfolding operations.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi in view of Lebby by having the display be a foldable display (see rejection of claim 10) in which display drivers are capable of updating screen resolution and screen display size based upon the current expansion of the display system, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such a display is desirable to overcome prior display deficiencies, such as part of the display not being operational or being cut off with folding.

29. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nahi et al. 6,084,584 in view of Lebby et al. 6,115,618 as applied to claim 1 above, and further in view of Lemke et al. 5,850,209.

In regard to claim 13, Nahi in view of Lebby discloses an invention similar to that which is claimed in claim 13. Nahi in view of Lebby does not disclose that the display system includes an alternative communication system to optionally provide wired communication between the display system and the handheld computing device.

Lemke discloses a display system that includes two communication systems to provide wired or wireless communication between the display system and the computing device. See column 3, lines 28-30, disclosing, “In accordance

with one embodiment of the invention, the display unit communicates with the processor unit through a bi-directional communications cable.” Lemke teaches in column 3, lines 33-35, that “the display unit...is selectively separated from the processor unit”.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Lemke by having the display system include an alternative communication system to optionally provide wired communication between the display system and the handheld computing device. One would have been motivated to make such a change in order to have the display unit be “selectively separated” from the processor unit, as taught by Lemke.

30. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nahi et al. 6,084,584.

In regard to claim 22, Nahi discloses an invention similar to that which is disclosed in claim 22. See rejection of claim 20 for similarities. Nahi does not disclose that the second power source is lighter in weight than the third power source. However, there is no disclosed criticality of having the second power source be lighter than the third power source, and it would be a matter of choice as to whether the display or processor has a power source that is lighter in weight. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the second power source be lighter in weight than the third power source.

31. In regard to claim 24, Nahi discloses an invention similar to that which is claimed in claim 24. See rejection of claim 20 for similarities. Further see column 7, line 64 to column 8, line 3, disclosing, "The display panel 32 is preferably an active matrix liquid crystal display (LCD) or dual-scan super-twist nematic display suitable for rendering color images at a resolution of about 640.times.480 pixels or greater. Low cost display panels 32 with reduced resolutions and only monochrome display capabilities can also be utilized."

Nahi does not disclose that the first display area is a high resolution display and the second display area is a lower resolution display area. However, Nahi discloses in column 4, lines 17-21, "multiple portable display tablets can be utilized in conjunction with a single base computer system to separately and collaboratively provide access to applications executing on the base computer system."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi by having the first display area be a high resolution display and the second display area be a lower resolution display area. One would have been motivated to make such a change based on the teaching of Nahi that the multiple portable display tablets can be utilized separately and collaboratively and that display panels 32 with reduced resolutions can be used.

32. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nahi et al. 6,084,584 in view of Branson 2003/0071832.

In regard to claim 25, Nahi discloses an invention similar to that which is claimed in claim 25. See rejection of claim 20 for similarities. The figures depict all of the displays as non-flexible. Nahi does not disclose that the second display unit is at least one of a flexible display unit and a foldable display unit.

Branson discloses an adjustable display device that is flexible and foldable. Branson teaches in paragraph [0004] that "displays which are flexible in nature and thus able to be folded have been developed." Further, in paragraph [0005], Branson teaches, "A foldable display device is configured to fold in a similar manner as a wallet. In this manner, when the device is being carried around by a user, it may easily fit into the user's shirt or jacket pocket. When in use, the user may unfold the display device such that the display screen size of the device is many times larger than the folded size."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Nahi by having the second display be flexible and foldable, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such foldable, flexible displays have been developed, offering a small size for portability and a large display screen size for use.

Double Patenting

33. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

34. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 10 and 13 of copending Application No. 10/085945 in view of Nahi et al. 6,084,584.

In regard to claim 1, claims 1 and 10 of the copending application discloses an invention similar to that of claim 1 of the immediate application, though of slightly different scope. Claims 1, 10 and 13 of the copending application do not display a first power source for the processing unit.

Nahi discloses an invention in which the processing unit has a first power source. See figure 1 and column 6, lines 23-26, disclosing a "host computer system 14...utilizing a modest to high performance central processing unit (CPU)". The processing unit is a base computer system (see previous paragraph and element 14 of figure 1). It is inherent that a computer has a power source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify claim 1 of the copending application by having the computing device have a first power source, as in the invention of Nahi. Thus, the second power source of the immediate application is the visual display power source disclosed in claim 10 of the copending application. One would have been

motivated to make such a change based on the teaching of Nahi's invention, which includes power sources for both the processing unit and the display.

This is a provisional obviousness-type double patenting rejection.

35. Claims 2 and 3 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 11 of copending Application No. 10085945 in view of Nahi et al. 6,084,584.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 11 of the copending application discloses all elements of claims 2 and 3 of the immediate application. It is understood that if data can be stored and retrieved from the memory, then the memory is random access memory.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

36. Claim 8 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 11 and 12 of copending Application No. 10085945 in view of Nahi et al. 6,084,584.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 12 of the copending application discloses all elements of claim 8 of the immediate application. It is understood that a user operated navigation apparatus is input capability.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

37. Claims 9 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 10085945 in view of Nahi et al. 6,084,584. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1 and 2 of the copending application discloses all elements of claims 9 and 10 of the immediate application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

38. Claim 11 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of copending Application No. 10/085945 in view of Nahi et al. 6,084,584 in further view of Branson2003/0071832 A1.

This is a provisional obviousness-type double patenting rejection.

In regard to claim 11, claims 1 and 2 of the copending application in view of Nahi disclose an invention similar to that which is disclosed in claim 11 of the immediate application. Claims 1 and 2 of the copending application in view of Nahi do not disclose that display drivers are capable of updating screen resolution and screen display size based upon the current expansion of the display system.

Branson discloses an invention in which display drivers are capable of updating screen resolution and screen display size based upon the current expansion of the display system. See paragraph [0009], disclosing, "The

detection mechanism is configured to detect a change in size of the display device by displacement of at least one of the plurality of display segments and to generate a corresponding detection signal. The adjustable display device further includes a controller operatively coupled to the detection mechanism and configured to (1) receive the detection signal; (2) adjust displayed data of the display device in response to the detection signal; and (3) display the adjusted displayed data on one or more of the display segments.” This controller is understood to be a display driver. Further see paragraph [0008] disclosing that the size and/or resolution are adjusted.

Branson further teaches in paragraph [0007], “Some foldable display devices are not operational in the folded state...Other foldable display devices significantly cut off the display content when in the folded state. Still other foldable display devices may show an undesirable line which extends across the seam of the fold.” He further teaches in paragraph [0008], “it would be desirable to have a foldable display device which is capable of dynamically adjusting the size and/or resolution of the displayed information in response to modifications to the display area resulting from folding and/or unfolding operations.”

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of claims 1 and 2 of the copending application in view of Nahi by having the display be a foldable display (see rejection of claim 10) in which display drivers are capable of updating screen resolution and screen display size based upon the current expansion of the

display system, as in the invention of Branson. One would have been motivated to make such a change based on the teaching of Branson that such a display is desirable to overcome prior display deficiencies, such as part of the display not being operational or being cut off with folding.

39. Claim 12 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of copending Application No. 10/085945 in view of Nahi et al. 6,084,584. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 13 of the copending application discloses all elements of claim 12 of the immediate application, as best understood.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

40. Claim 14 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 10, 11 and 13 of copending Application No. 10/085945. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 10, 11 and 13 of the copending application disclose all elements of claim 14 of the immediate application, as best understood.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

41. Claim 15 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and

10 of copending Application No. 10/085945. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 2 of the copending application discloses all elements of claim 15 of the immediate application, as best understood.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

42. Claim 16 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 10 and 13 of copending Application No. 10/085945 in view of Nahi et al. 6,084,584.

In regard to claim 1, claims 1, 10 and 13 of the copending application disclose an invention similar to that of claim 16 of the immediate application. Claims 1, 10 and 13 of the copending application do not display a first power source for the processing unit.

Nahi discloses an invention in which the processing unit has a first power source. See figure 1 and column 6, lines 23-26, disclosing a "host computer system 14...utilizing a modest to high performance central processing unit (CPU)". The processing unit is a base computer system (see previous paragraph and element 14 of figure 1). It is inherent that a computer has a power source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify claim 1 of the copending application by having the computing device have a first power source, as in the invention of Nahi. Thus, the second power source of the immediate application is the visual display power

source disclosed in claim 10 of the copending application. One would have been motivated to make such a change based on the teaching of Nahi's invention, which includes power sources for both the processing unit and the display.

This is a provisional obviousness-type double patenting rejection.

43. Claim 18 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 11 of copending Application No. 10/085945. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 11 of the copending application discloses all elements of claim 18 of the immediate application. It is understood that if data can be stored and retrieved from the memory, then the memory is random access memory.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oliwa et al. 4,856,088 discloses a portable communication device with a detachable display.

Schwaber 4,763,291 discloses a portable electronic device in communication with multiple displays.

Digiorgio et al. 2001/0005201 discloses a remote processor for communication with multiple displays.

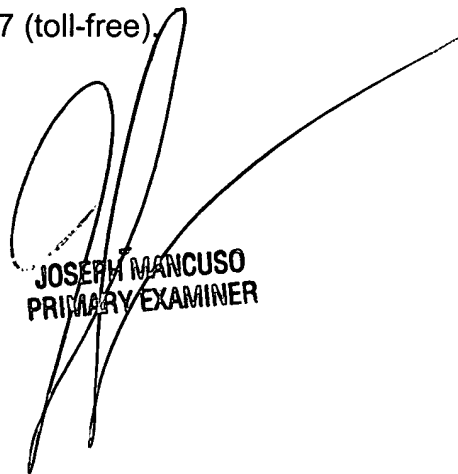
Failla 5,128,662 discloses a display that is expandable and flexible.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurel E LeFlore whose telephone number is (703) 305-8627. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (703) 305-3885. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LEL
22 March 2004



JOSEPH MANCUSO
PRIMARY EXAMINER